

What is claimed is:

1. A three-dimensional data generating apparatus, comprising:

an obtaining portion for obtaining plural image data representing images obtained by photographing an object from different viewpoints, the plural image data each representing respective one of the images;

a first detector for detecting corresponding points of the images by a gradient method;

a second detector for detecting corresponding points of the images by a correlation method;

a selector for selecting either one of the first detector or the second detector; and

a generator for generating three-dimensional image of the object based on the corresponding points detected by the selected detector.

2. The three-dimensional data generating apparatus according to claim 1, comprising:

image data generators each of which generates image data by photographing an object, wherein

the obtaining portion obtains the image data each generated by the respective image data generators.

3. The three-dimensional data generating apparatus according to claim 1, comprising:

an input portion for obtaining an image data from outside of the apparatus, wherein

the obtaining portion obtains the image data from the input portion.

4. The three-dimensional data generating apparatus according to claim 1, comprising:

an object judging portion for judging a type of an object, wherein

the selector selects either one of the first detector or the second detector based on the judgment result of the object judging portion.

5. The three-dimensional data generating apparatus according to claim 4, wherein

the object judging portion judges whether or not the object is a human; and

the selector selects either one of the first detector or the second detector in such a manner that the first detector is selected if it is judged that the object is a human and the second detector is selected if it is judged that the object is not a human.

6. The three-dimensional data generating apparatus according to claim 5, wherein

the object judging portion detects colors of an object and judges that the object is a human if a predetermined amount of a predetermined color is contained in the object.

7. The three-dimensional data generating apparatus according to claim 1, comprising:

a luminance gradient calculation portion for calculating a luminance gradient of an object, wherein

the selector selects either one of the first detector or the second detector in such a manner that the first detector is selected if the calculated luminance is lower than a predetermined value and the second detector is selected if the calculated luminance gradient is higher than the predetermined value.

8. The three-dimensional data generating apparatus, comprising:

an appointing portion for appointing either one of the detectors, wherein

the selector selects either one of the first detector or the second detector based on the appointment by the appointing portion.

9. A three-dimensional data generating apparatus, comprising:

an obtaining portion for obtaining plural image data representing images obtained by capturing an object from different viewpoints, the image data each representing respective one of the images;

a first detector for detecting corresponding points of the images by a gradient method;

a second detector for detecting corresponding points of the images by a correlation method;

a precision operation portion for operating a precision of the detection of the corresponding points carried out by the first detector based on the corresponding points and a precision of detection of the corresponding points carried out by the second detector based on the corresponding points;

a decision portion for deciding to use either one of the corresponding points detected by the first detector or the corresponding points detected by the second detector based on the precision obtained by the precision operation portion; and

a generator for generating a three-dimensional data of the object based on the corresponding points decided by

the decision portion.

10. The three-dimensional data generating apparatus according to claim 9, comprising:

a first image data generator, a second image data generator and a third image data generator, each of which generating image data by photographing an object, wherein

the precision operation portion operates the precision of the detection by obtaining a point corresponding to a reference point in the image data generated by the first image data generator in each of the image data generated by the second and the third image data generators and comparing one of the corresponding point with the other.

11. A three-dimensional data generating method, comprising the steps of:

obtaining as plural image data plural images respectively obtained by photographing an object from different angles;

selecting either one of a gradient method or a correlation method;

generating three-dimensional data of the object based on corresponding points obtained by the selected method, the corresponding points being a pair of points indicating an identical part of the object in the plural images.

12. The three-dimensional data generating method according to claim 11, wherein

either one of the gradient method or the correlation method is selected based on the plural images.

13. The three-dimensional data generating method

according to claim 12, wherein

either one of the gradient method or the correlation method is selected based on luminance of the plural images.

14. The three-dimensional data generating method according to claim 13, wherein

either one of the gradient method or the correlation method is selected based on color composition of the plural images.

15. The three-dimensional data generating apparatus according to claim 11, wherein

either one of the gradient method or the correlation method is selected based on a comparison of reliabilities of the corresponding points obtained by the gradient method with reliabilities of the corresponding points obtained by the correlation method.